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|-------------------------------|-----------------|--------------|--|
| Notice of Allowability | Application No. | Applicant(s) | |
| | 09/666,902 | WU, SIU-WAI | |
| | Examiner | Art Unit | |
| | Dave Czekaj | 2616 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendment filed 11/11/05.
2. ☒ The allowed claim(s) is/are 1-3, 5-11 and 13-24.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|--|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413), Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____. |

DETAILED ACTION

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mr. Marley on 1/19/06.

The application has been amended as follows:

Cancel Claim 12.

Replace Claim 1 with the following:

1. A method for processing a first plurality of channels of video data at a plurality of processors, comprising the steps of:

capturing a sample of data from each channel of said plurality of channels;

obtaining a measure of complexity for each channel of said first plurality of channels based on the sample of data captured for that channel, wherein the measure of the complexity for each of said captured samples of data is a function of a ratio of the number of B-frames to the sum of the number of P-frames and I-frames thereof;

assigning each channel to at least one of the processors for processing thereat, wherein the processors comprise respective transcoders for transcoding the channels assigned thereto; and

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maintaining a running balance of an accumulated complexity for each processor according to the complexity of the channel(s) assigned thereto; wherein:

the channels are dynamically assigned to the processors such that channels with relatively high complexity are assigned before channels with relatively low complexity.

Replace claim 24 with the following:

24. An apparatus for processing a first plurality of channels of video data at a plurality of processors, comprising:

means for capturing a sample of data from each channel of said plurality of channels;

means for obtaining a measure of complexity for each channel of said first plurality of channels based on the sample of data captured for that channel, wherein the measure of the complexity for each of said captured samples of data is a function of a ratio of the number of B-frames to the sum of the number of P-frames and I-frames thereof;

means for assigning each channel to at least one of the processors for processing thereat, wherein the processors comprise respective transcoders for transcoding the channels assigned thereto; and

means for maintaining a running balance of an accumulated complexity of the channel(s) assigned thereto; wherein:

the channels are dynamically assigned to the processors such that channels with relatively high complexity are assigned before channels with relatively low complexity.

Allowable Subject Matter

2. The following is an examiner's statement of reasons for allowance:

Ozkan (US 5,838,686) discloses an apparatus for allocating a scarce resource among several users in response to indications of need from the users (Ozkan: column 1, lines 3-5). This apparatus comprises "capturing a sample of data from each channel" (Ozkan: figure 2, wherein the sample of data is sent to the complexity analyzer), "obtaining a measure of complexity for each channel based on its sample" (Ozkan: figure 2, column 4, lines 29-30, wherein the sample is the video signal), "assigning each channel to at least one of the processors for processing thereat" (Ozkan: figure 1, wherein it is shown that each channel has a separate processor), and "maintaining a running balance of an accumulated complexity for each processor according to the complexity of the channels assigned thereto" (Ozkan: column 4, lines 1-8, wherein the processors output a complexity level and the bit rate allocator collects or accumulates them for use in calculations). However, this apparatus lacks assigning channels based on complexity and dynamically assigning the channels to transcoders as claimed. This apparatus further lacks the complexity being a function of a ratio of a number of B-frames to the sum of the number of I and P-frames. A further search was conducted which failed to yield any prior art. Therefore, the prior art

fails to teach or render obvious these limitations taken within the others in the claim.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dave Czekaj whose telephone number is (571) 272-7327. The examiner can normally be reached on Monday - Friday 9 hours.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Groody can be reached on (571) 272-7950. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DJC

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